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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,847	08/21/2003	Hisatoshi Hirota	030934	1846

38834 7590 05/19/2005

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WASHINGTON, DC 20036

EXAMINER

TANNER, HARRY B

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/604,847	<b>Applicant(s)</b> HIROTA, HISATOSHI	
	<b>Examiner</b> Harry B. Tanner	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,7 and 18 is/are rejected.
- 7) ☒ Claim(s) 2,4-6 and 8-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsenz (4,697,431) in view of Japanese reference 2001-133053. Alsenz discloses the invention substantially as claimed. Alsenz discloses a method of operating a refrigeration system having a variable capacity compressor control 221 and expansion valve controller 10 that control the superheat at the outlet of the evaporator 214 in which the expansion valve is periodically opened in order to flush the lubrication oil from the evaporator. Japanese reference 2001-133053 teaches the use of electronic capacity control valve CV in order to control the compressor capacity of a refrigeration system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Alsenz such that it included the use of electronic capacity control valve in order to control the compressor capacity of the refrigeration system in view of the teachings of Japanese reference 2001-133053.

Claims 2, 4-6 and 8-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed on 2/11/05 have been fully considered but they are not persuasive. For example, with respect to applicant's contention that there is no motivation to modify the system of Alsenz to include the electronic capacity control of

the Japanese reference and that the control of the Japanese reference does not forcibly eliminate the superheat of the refrigerant at the outlet of the evaporator, it is noted that the Japanese reference was not cited as a means to "forcibly eliminate the superheat of the refrigerant at the outlet of the evaporator" but rather as a substitute for the compressor capacity control that Alsensz clearly teaches by operating a number of compressor in parallel ( see 200, 221, 218 and 220 of Figure 11). One of ordinary skill in the art would consider it to have been obvious to substitute one type of compressor capacity control for another in any system that needs compressor capacity control. As far as proving a control to "forcibly eliminate the superheat of the refrigerant at the outlet of the evaporator", the control of Alsensz inherently eliminates superheat at the outlet of the evaporator when the expansion valve is opened to flush the oil from the evaporator. The oil is flush out of the evaporator by the liquid refrigerant which will inherently have no superheat at the outlet of the evaporator since it is in the liquid state and superheated refrigerant requires the refrigerant to be entirely in a vapor state.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

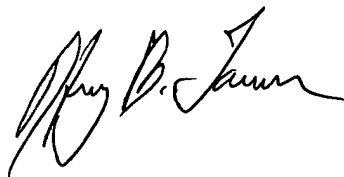
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry B. Tanner whose telephone number is (571) 272-4813. The examiner can normally be reached 8:30 am to 5:00 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler, can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Harry B. Tanner", is positioned above the printed name and title.

Harry B. Tanner  
Primary Examiner  
Art Unit 3744